

In the claims:

Claim 1 (previously presented) A method for manufacturing a fluorocarbon film wherein a specific inductive capacity is within a range of 2 or less comprising introducing a mixed gas comprising a first carbon fluoride gas and a second carbon fluoride gas on a substrate placed inside a chamber, and depositing a fluorocarbon film on said substrate; forming voids in said fluorocarbon film by selectively removing volatile components contained in said fluorocarbon film.

Claim 2 (previously presented) A method for manufacturing a fluorocarbon film wherein a specific inductive capacity is within a range of 2 or less comprising introducing a mixed gas comprising a first carbon fluoride gas and a second carbon fluoride gas on a substrate placed inside a chamber, depositing a fluorocarbon film on said substrate; forming voids in said fluorocarbon film by selectively removing volatile components contained in said fluorocarbon film; wherein

said first carbon fluoride-containing compound having 4 to 5 carbon atoms; and said second carbon fluoride gas is a fluorine-containing compound having 6 to 12 carbon atoms.

Claim 3 (previously presented) The method for manufacturing a fluorocarbon film according to claim 2, wherein said first carbon fluoride gas is octafluorocyclopentene.

Claim 4 (previously presented) The method of manufacturing a fluorocarbon film according to claim 2, wherein said second carbon fluoride gas is hexafluorobenzene.

Claim 5 (previously presented) The method of manufacturing a fluorocarbon film according to claim 1 wherein said step for forming voids includes a step for cleaning said fluorocarbon film with a supercritical fluid.

Claim 6 (previously presented) The method of manufacturing a fluorocarbon film according to claim 1 wherein said step for forming voids includes a step for heating said fluorocarbon film.

Claim 7 (previously presented) The method of manufacturing a fluorocarbon film according to claim 1 wherein said chamber is a plasma exciting chamber that can internally generate plasma.

Claim 8 (previously presented) The method of manufacturing a fluorocarbon film according to claim 1 wherein said first carbon fluoride gas has relatively high volatility and said second carbon fluoride gas has relatively low volatility.

Claim 9 (previously presented) A fluorocarbon film wherein a large number of fine voids are internally formed, and specific inductive capacity is within a range of 2 or less.

Claim 10 (previously presented) A surface-coating material for a printed substrate for high-frequency circuits composed of the fluorocarbon film according to claim 9.

Claim 11 (previously presented) A gas adsorbing material that contains the fluorocarbon fluid according to claim 9.

Claim 12 (previously presented) An electronic device that uses the fluorocarbon film according to claim 9 in at least a part.

Claim 13 (currently amended) A method for manufacturing a fluorocarbon film which is used as interlayer insulation films for semiconductor devices ~~characterized by including~~ comprising introducing a mixed gas comprising a first carbon fluoride gas and a second carbon fluoride gas on a substrate placed inside a chamber, and depositing a fluorocarbon film on said substrate; forming voids in said fluorocarbon film by selectively removing volatile components contained in said fluorocarbon film.

Claim 14 (previously presented) A method for manufacturing a fluorocarbon film which is used as interlayer insulation films for semiconductor devices characterized by including a step for introducing a mixed gas comprising a first carbon fluoride gas and a second carbon fluoride gas on a substrate placed inside a chamber, and depositing a fluorocarbon film on said substrate; and a step for forming voids in said fluorocarbon film by selectively removing volatile components contained in said fluorocarbon film; wherein
said first carbon fluoride gas is a fluorine-containing compound having 4 to 5 carbon atoms; and said second carbon fluoride gas is a fluorine-containing compound having 6 to 12 carbon atoms.

Claim 15 (previously presented) The method for manufacturing a fluorocarbon film according to claim 14, wherein said first carbon fluoride gas is octafluorocyclopentene.

Claim 16 (previously presented) The method for manufacturing a fluorocarbon film according to claim 14, wherein said second carbon fluoride gas is hexafluorobenzene.

Claim 17 (previously presented) The method for manufacturing a fluorocarbon film according to claim 13 wherein said step for forming voids includes a step for cleaning said fluorocarbon film with a supercritical fluid.

Claim 18 (previously presented) The method for manufacturing a fluorocarbon film according to claim 13 wherein said step for forming voids includes a step for heating said fluorocarbon film.

Claim 19 (previously presented) The method for manufacturing a fluorocarbon film according to claim 13 wherein said chamber is a plasma exciting chamber that can internally generate plasma.

Claim 20 (previously presented) The method for manufacturing a fluorocarbon film according to claim 13 wherein said first carbon fluoride gas has relatively high volatility and said second carbon fluoride gas has relatively low volatility.